36.

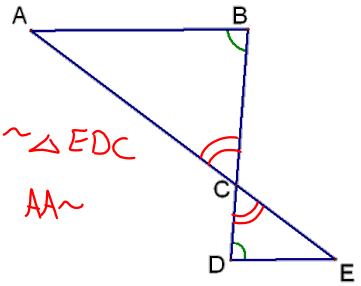
$\frac{x+2}{15} = \frac{8}{10}$ (4, 5, 3, 2, 1)

$\frac{x+2}{15} = \frac{4}{5}$

$\frac{x+2}{4} = \frac{15}{5}$

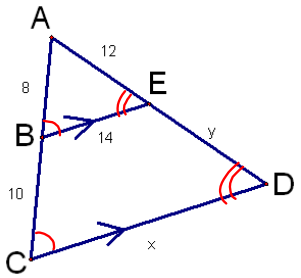
6-3 Similar Triangles

Postulate 6.1—AA~ Postulate—If 2 ∠s of 1 Δ are ≅ to 2 ∠s of another Δ. Then the Δs are similar.



△ABC ~ △EDC

Why? AA~



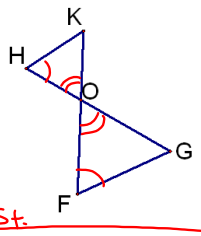
△ABE ~ △ACD AA~

$\frac{AB}{AC} = \frac{BE}{CD} = \frac{AE}{AD}$ $\frac{8}{18} = \frac{14}{x} = \frac{12}{12+y}$

$2x = 63$ $x = 31.5$ $\frac{14}{x} = \frac{8}{18}$ $\frac{12}{12+y} = \frac{8}{18}$

$12+y = 27$

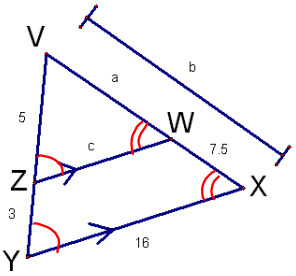
$y = 15$



Given: $\angle H \cong \angle F$

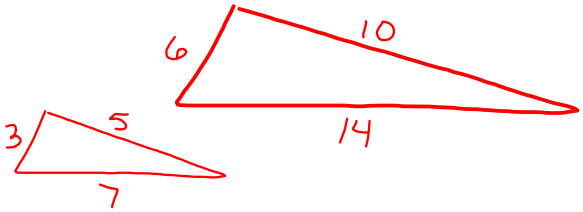
Prove: $HK \cdot GO = FG \cdot KO$

St.	R.
① ~	① Given
② $\angle HOK \cong \angle FOG$	② Vert $\angle$s $\cong$
③ $\triangle HOK \sim \triangle FOG$	③ AA~
④ $\frac{HK}{FG} = \frac{OK}{OG}$	④ Corr. sides of ~$\triangle$s are prop.
⑤ $HK \cdot OG = FG \cdot OK$	⑤ Cross Mult.



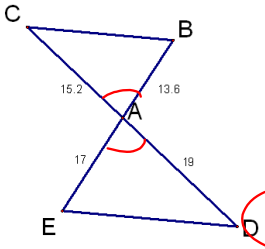
AA~ $\frac{5}{8} = \frac{c}{16} = \frac{a}{a+7.5}$

Theorem 6.1—SSS~ Theorem—If the measures of the corresponding sides of 2 $\triangle$s are in proportion, then the $\triangle$s are ~.



$\frac{3}{6} = \frac{5}{10} = \frac{7}{14}$

Theorem 6.2—SAS~ Theorem—If the measures of 2 sides of a $\triangle$ are proportional to the corresponding 2 sides of another $\triangle$, and the included $\angle$s are $\cong$, then the $\triangle$s are ~.

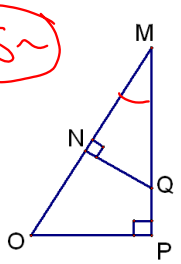


Are the triangles similar?

lg sm
$\frac{15.2}{19} = \frac{13.6}{17}$ ✓

SAS~

Are the triangles similar?

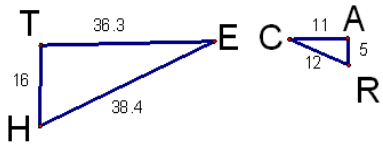


△MNQ ~ △MPO

AA~

Are the triangles similar?

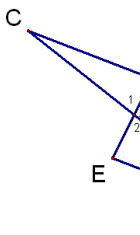
NO



sm ? med ? lg

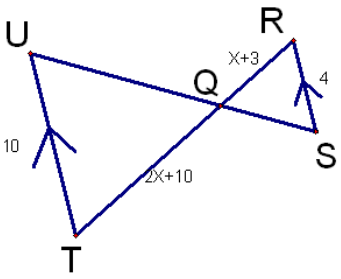
$\frac{16}{5} = \frac{36.3}{11} = \frac{38.4}{12}$

3.2 3.3



Given: $\frac{AC}{AD} = \frac{BA}{EA}$

Prove: ∠C ≅ ∠D



HW
p302-304
#s 10-19, 21, 35